

WHAT IS CLAIMED IS:

1. A power steering system, comprising:

a power cylinder, the power cylinder comprising a sleeve and a piston rod accommodated therein;

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a steering-force transmitting gear linked to the piston rod;

a gear housing which accommodates the steering-force transmitting gear;

a cylindrical wall formed with the gear housing, the cylindrical wall comprising an outer-periphery general face;

10 a butt wall formed with the gear housing, the butt wall being substantially orthogonal to the cylindrical wall,

the sleeve of the power cylinder being engaged on an outer periphery of the cylindrical wall with an end face of the sleeve abutting on the butt wall;

15 a first R-shaped portion formed with the cylindrical wall, the first R-shaped portion curvedly extending from the outer-periphery general face to an outer periphery of the butt wall; and

a second R-shaped portion formed with the cylindrical wall, the second R-shaped portion being arranged between the butt wall and the first R-shaped portion, the second R-shaped portion being smaller in radius of curvature than the first R-shaped portion.

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2. The power steering system as claimed in claim 1, further comprising a connecting face formed with the cylindrical wall, the connecting face being arranged between the first and second R-shaped portions, the connecting face serving to connect the first R-shaped portion to the second R-shaped portion at a position radially outward of
25 the outer-periphery general face of the cylindrical wall.

3. The power steering system as claimed in claim 2, wherein the connecting face has a diameter increasing toward the second R-shaped portion in a sector way.

4. The power steering system as claimed in claim 1, wherein the first R-shaped portion is dented radially inward with respect to the outer-periphery general face of the cylindrical wall.

5 5. The power steering system as claimed in claim 1, wherein the gear housing comprises a gear housing obtained by casting, wherein the cylindrical wall comprises a cylindrical wall obtained by machining from the outer-periphery general face to the butt wall except an area corresponding to the first R-shaped portion, whereby the first R-shaped portion includes a cast face.

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6. The power steering system as claimed in claim 1, wherein the sleeve of the power cylinder comprises an inner peripheral face having a diameter increasing toward the end face of the sleeve of the power cylinder in a sector way.

15 7. The power steering system as claimed in claim 6, further comprising a connecting face formed with the cylindrical wall, the connecting face being arranged between the first and second R-shaped portions, the connecting face serving to connect the first R-shaped portion to the second R-shaped portion at a position radially outward of the outer-periphery general face of the cylindrical wall, the connecting face having a 20 diameter increasing toward the end face of the sleeve of the power cylinder in a sector way,

wherein a sector angle of the inner peripheral face of the sleeve substantially corresponds to a sector angle of the connecting face.

25 8. The power steering system as claimed in claim 6, wherein the inner peripheral face of the sleeve has an end formed with a butt face abutting on the butt wall.

9. The power steering system as claimed in claim 8, wherein the butt face of the inner peripheral face of the sleeve is perpendicular to an axis of the power steering

system.

10. A method of manufacturing a power steering system, comprising:
casting a gear housing;

5 machining a surface of the cast gear housing; and

connecting a cylinder sleeve to the machined gear housing,

wherein the casing step provides a cylindrical wall, a butt wall substantially orthogonal to the cylindrical wall, and a first R-shaped portion curvedly extending from an outer-periphery general face of the cylindrical wall to an outer periphery of the butt wall,

10 wherein the machining step provides the cylindrical wall, the butt wall, and a second R-shaped portion arranged between the butt wall and the first R-shaped portion and being smaller in radius of curvature than the first R-shaped portion, and

wherein the connecting step provides an end of the cylinder sleeve inserted in the gear housing and abutting on the butt wall, whereby the cylinder sleeve is fixedly
15 engaged with the gear housing.

11. The method as claimed in claim 10, wherein the machining step further provides a connecting face arranged between the first and second R-shaped portions, the connecting face serving to connect the first R-shaped portion to the second R-shaped portion at a position radially outward of the outer-periphery general face of the cylindrical wall.

- 20 12. A power steering system, comprising:

a power cylinder, the power cylinder comprising a sleeve and a piston rod
25 accommodated therein;

a steering-force transmitting gear linked to the piston rod;

a gear housing which accommodates the steering-force transmitting gear;

a cylindrical wall formed with the gear housing, the cylindrical wall comprising an outer-periphery general face;

a butt wall formed with the gear housing, the butt wall being substantially orthogonal to the cylindrical wall,

the sleeve of the power cylinder being engaged on an outer periphery of the cylindrical wall with an end face of the sleeve abutting on the butt wall;

5 a first R-shaped portion formed with the cylindrical wall, the first R-shaped portion curvedly extending from the outer-periphery general face to an outer periphery of the butt wall;

a second R-shaped portion formed with the cylindrical wall, the second R-shaped portion being arranged between the butt wall and the first R-shaped portion,

10 the second R-shaped portion being smaller in radius of curvature than the first R-shaped portion; and

a connecting face formed with the cylindrical wall, the connecting face being arranged between the first and second R-shaped portions, the connecting face serving to connect the first R-shaped portion to the second R-shaped portion at a position radially

15 outward of the outer-periphery general face of the cylindrical wall, the connecting face having a diameter increasing toward the end face of the sleeve of the power cylinder in a sector way, wherein a sector angle of the inner peripheral face of the sleeve substantially corresponds to a sector angle of the connecting face.